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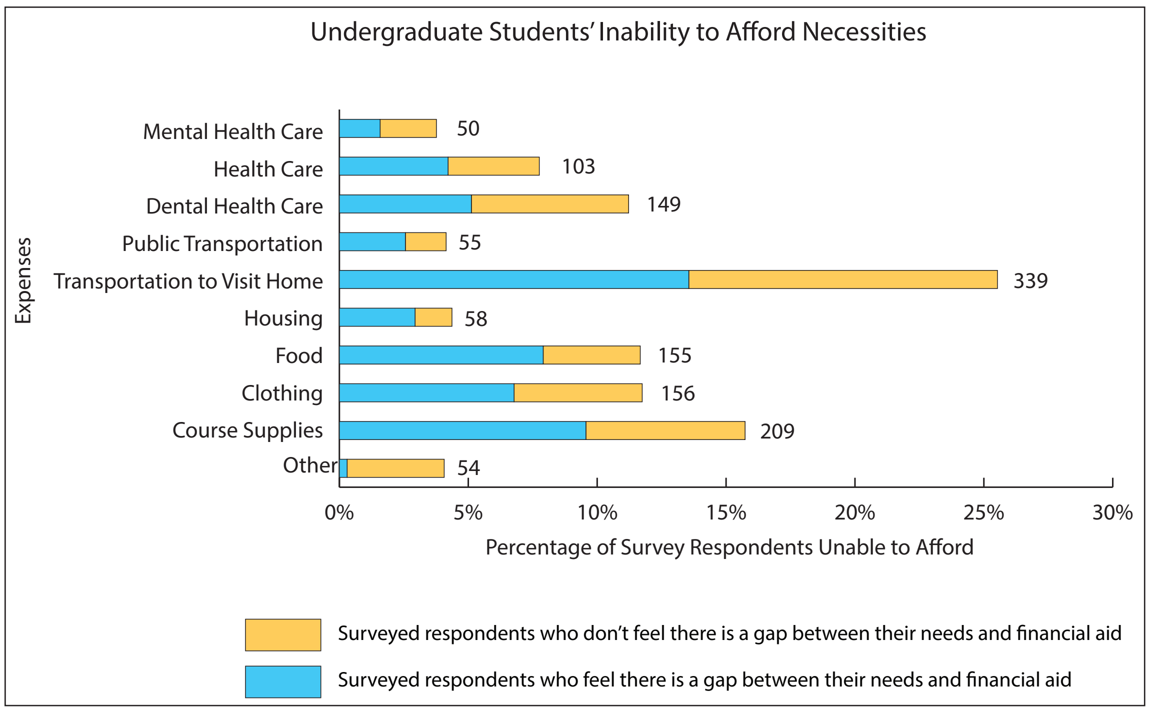
WEATHER, p. 2
THU: 61°F | 47°F Mostly Sunny
FRI: 64°F | 55°F Sunny
SAT: 71°F | 63°F Chance Showers

One in ten undergrads can't afford food, survey finds

CASE study shows 31 percent of students feel a gap between financial aid and their needs



IVANA ALARDIN—THE TECH

Number of students unable to afford basic necessities, expressed as a percentage of the total number of undergraduates, according to the CASE study conducted in 2016.

By Sharon Chao
STAFF WRITER

The student group Class Awareness, Support, and Equality (CASE) published the results of their socioeconomic survey to the undergraduate student body and senior administration Sept. 25. They found that at least one in ten students could not afford food, course supplies, transportation to visit home, or professional clothing at some point during their time at MIT.

Nearly half the surveyed students who took leaves of absence also had difficulties paying for their expenses during their time away. Ultimately, the report called on MIT to "establish a representative or office for students of lower socioeconomic background … and create a special taskforce" to address the issues documented by the survey.

The survey focused on how students' socioeconomic status affected other aspects of their lives, like affording certain expenses, major choice, and reasons for working. The purpose of the survey, conducted in November and December 2016 via email to all undergraduates, was to "validate that these issues were real, and there was a need for MIT to create a stronger support network for those struggling financially," CASE President René García Franceschini '19 said in a phone interview with The Tech.

Former CASE President Lisa Lozano '17 and Vice President Kyla Truman '17 primarily wrote the survey questions. Office of the Provost senior research analyst Kate Doria, Director of Admissions Research and Analysis Rachel Kay, and Dean of Admissions and Student Financial Services Stu Schmill helped edit it before its release.

The survey results revealed that 25.3 percent of undergraduate students couldn't afford transportation to visit home at one point, 15.6 percent course supplies, 11.7 percent clothing, and 11.6 percent food.

When asked to elaborate on why

CASE, Page 2

IN SHORT

PE registration for undergraduates is open until Wednesday, October 18 at 1 p.m.

Buses will replace Red Line service between Park Street and Kendall/MIT stations on weekends beginning Friday, Sept. 29 through Sunday, Dec. 21 due to the Longfellow Bridge Project.

TEDxCambridge will offer $30 student tickets from 5–7 p.m. today at the box office at the Boston Opera House. Limit is two per person, and students must show ID. The event starts at 7 p.m.

Send news and tips to *news@tech.mit.edu.*

REPORTER'S NOTEBOOK

MIT professor Rainer Weiss talks love, failure, and his crooked journey to the Nobel prize

New laureate hopes to influence policy, considers nuclear war a major threat

By Vivian Zhong
EDITOR IN CHIEF

"You don't have to be a raving genius to win a Nobel," newly-minted Nobel laureate Rainer Weiss told a crowd of proud faculty and awed students during his celebratory lunch last Tuesday. Not that winning a Nobel should be everyone's goal in life, Weiss was quick to add: one should always do what's most important to them. And Weiss SB '55, PhD '62, a professor of physics emeritus, has certainly practiced what he preached.

Weiss accidentally flunked out of MIT as an undergraduate after missing a month of lectures in order to be with a musician at Northwestern he had fallen in love with. He eventually returned to MIT, first as a lab tech, then as a grad student in the same lab.

For Weiss, "flunking out wasn't a failure, it was a path." A different one from the rut many students feel pressured to follow: get A's in school, go to prestigious universities, get tenured or advance through the ranks of a company. But in a scientific profession, Weiss says, there isn't a standard path. (In fact, Weiss didn't want to go to a college as a child, and "never got good grades" because he never cared about them.)

In the end, what made him "successful," for some definition thereof, was having something he could enjoy working on 24 hours of the day and having someone who believed in his capabilities, regardless of his record. For Weiss, this person was Jerrold Zacharias, the MIT professor who hired him as a lab tech and who later advised his PhD thesis.

Weiss also took what he considers to be real failures — research failures — in his stride. The key to learning from them, he says, is to understand what went wrong. To accomplish this for one failed attempt during his graduate studies to demonstrate gravitational redshift, Weiss built a vacuum that extended through the height of the old World War II-era Building 20 ("a wonderful, junky building") — cutting through the ceilings to do so.

"Many physicists, they'd say 'Oh my god, you didn't get a paper out of

Weiss, Page 6

Mexican journalist J. Jesús Esquivel discusses a dark reality of drug trade

Correspondent lambasts Trump's handling of issues, says most Trump voters don't care about or understand US-Mexico relations

By Jessica Shi
STAFF WRITER

J. Jesús Esquivel, the Washington correspondent for Mexican news magazine Proceso and author of several investigative books on drug trafficking, spoke to MIT students during a Q&A session on Monday. Later in the evening, Esquivel also took part in a panel discussion for the Mexican community in Boston.

Both events were organized by LUCha de MIT, a student group housed under MIT's Latino Cultural Center, and Mexicanos en el Extranjero Comprometidos con la Democracia ("Mexicans Abroad Committed to Democracy"), an initiative by Alonso Domínguez '20 and Edith Olivares.

At the Q&A, held in English, Esquivel fielded questions from Tanalís Padilla, an associate professor of Latin American history at MIT, and from the audience.

The panel, held in Spanish, consisted of Esquivel, Padilla, and three successful Mexican Americans in the Greater Boston area: Gladis Martínez, a logistics specialist and Deferred Action for Childhood Arrivals (DACA) recipient; Rubén Jaime, a business owner of 15 years; and Jesús Garcia, a lead engineer at an information technology consulting firm.

Domínguez explained the intended purposes of the two events before the start of the Q&A.

"First and foremost, over the last — well, forever — but particularly the last few months, we heard from

Mexico, Page 3

ADIB HASAN

Students play with dogs and their handlers from Dog BONES: Therapy Dogs of Massachusetts in front of Hayden Library at this semester's first Furry First Friday on Oct. 2.

MIT TEAM DEBATES INMATES

The topic was pharma culpability for America's opioid epidemic. **NEWS, p. 3**

IN MEMORIAM

MIT lost two students in September. We reflect on their lives, and the lives they have touched, in this issue. **NEWS, p. 6–7**

2.009 BUILD CHALLENGE

See the teams' work in progress.**PHOTO, p. 8**

ENGINEER TO MARINER

We talk with David Hesslink '17, a summer into his MLB career. **SPORTS, p. 16**

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WEATHER

Cooler weather eases in; fires rage out West

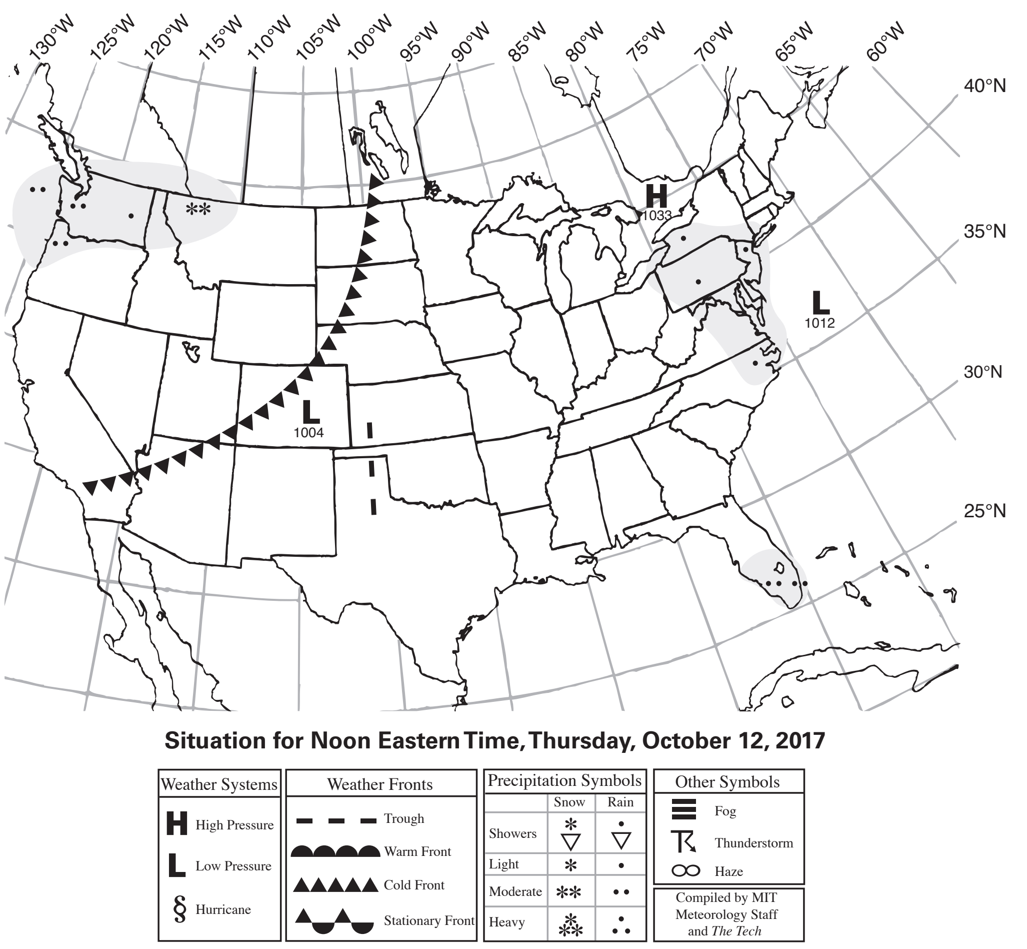
By Jordan Benjamin
STAFF METEOROLOGIST

A weak low pressure system is currently exiting the East Coast; in its wake, cooler, more seasonable weather and sunny skies will dominate today and Friday. This brief return to autumn will be short lived, however, as the unseasonably warm temperatures the Northeast has experienced periodically over the past month will return for the weekend. On Saturday, high temperatures will surge back into the mid-70s with a chance of rain in advance of an approaching cold front. The front should pass through the area late Sunday; in its wake, autumn-like weather will return again, with highs in the 50s and 60s and lows in the 40s for at least the greater part of next week. Although local conditions have been calm, the weather has not been so tranquil across the rest of the United States.

Category 1 Hurricane Nate made landfall near the mouth of the Mississippi River on Saturday, causing minor damage. Nate was the 4th hurricane to make landfall in the US this year, joining Harvey, Irma, and Maria. Out west, dry air and strong winds have fueled vicious fires in northern and central California. These fires have damaged thousands of homes and scorched over 160,000 acres over the past several days. Continued dry, windy conditions could allow the destruction to spread further as firefighters and emergency managers fight furiously to get the blazes under control.

Extended Forecast

Today: Mostly Sunny. High around 61 °F (16 °C). Winds NE at around 10 mph.
Tonight: Mostly Clear. Low around 47 °F (8 °C). Light East Winds.
Tomorrow: Sunny. High around 64 °F (18 °C). Low around 55 °F (13 °C). Winds SE at around 5 mph.
Saturday: Chance Showers. High around 71 °F (22 °C). Low around 63 °F (17 °C).
Sunday: Partly Cloudy. High around 75 °F (24 °C).



Situation for Noon Eastern Time, Thursday, October 12, 2017

Compiled by MIT Meteorology Staff and *The Tech*

CASE survey shows family, health issues complicate financial aid

CASE, from Page 1

food was difficult to afford, one student wrote, "I don't have much flexible income, so when I need to afford some items (a laptop for school, rent for a summer job), the first thing to get cut is food."

Another student explained, "I needed to get a surgery to recover from a sexual assault. My parents could not know about this, since they are ludicrously conservative. So, I had to find $800 in a short amount of time to pay for extended insurance to afford care. I borrowed from friends and wanted to pay them back — hence, I skimped on food."

The survey showed that 31 percent of students felt a gap between their financial aid and their actual needs during the academic year. One student wrote, "My parents do not want me to attend MIT, and are thus not providing their expected [family] contribution [EFC, which is used to calculate financial aid]."

These students also had different motivations to work, instead of for enjoying the job or learning useful skills. They were 1.38 times as likely as those who didn't feel a gap to work in order to afford basic necessities, 1.88 times as likely in order to send money home, and 2.89 times as likely in order to pay off debt or bills.

Some students also weren't interested in their major. "I chose my major because … of money & financial security only. I hate the subject to be honest," a student in Course 6-3 wrote.

According to the report, 48 percent of students who took leaves of absence encountered difficulties in paying for expenses when away. One student explained that he needed to pay for an expensive medical insurance at home because he wasn't covered under MIT's insurance.

A second student wrote, "I needed to pay for classes at a local university in order to apply back to MIT. I took 3 classes which cost around $1,000 per class, and I had to work around 4–5 months in order to obtain that money."

Lastly, students commented on some technical issues related to their financial aid. One student's financial aid didn't reflect that her parents recently became unemployed. Another student wrote, "Time between fall semester starting and financial aid being reimbursed is about 1 to 2 months, so I really struggle during that time."

The report was emailed to all undergraduates and some senior administrators, including Chancellor Cynthia Barnhart, Vice President of Student Life Suzy Nelson, and Senior Associate Dean David Randall. García Franceschini will meet with Nelson and Randall today. Truman had already talked with Barnhart, Nelson, and Randall in June, but they only discussed the general direction of CASE and challenges on campus, Truman said in a phone interview with *The Tech*.

CASE also organized a panel event centered around social mobility, titled "The Places You'll Go!," on Sept. 21. "We wanted to capture the shocking transition of our panelists, from their background to MIT — how their lives are now versus how they would have been if they didn't come here," García Franceschini said.

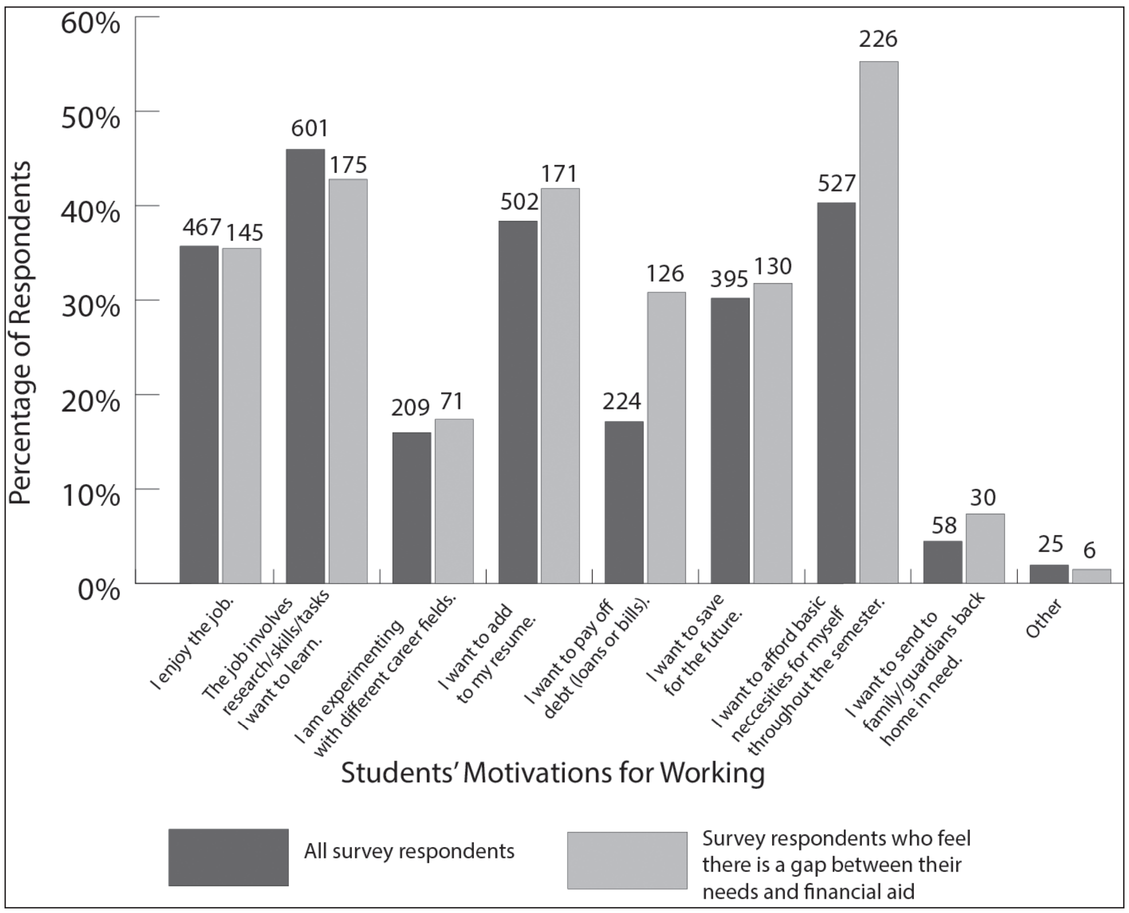
Jonathon Brown '19 was a panelist who discussed his upbringing with a mother on Social Security benefits and a father who passed away when he was in high school. "My friends are worried about problem sets, but I also have to think about sending money home and other family issues. I told my story to reach out to people like me, so they feel connected to someone," Brown said in a phone interview with *The Tech*.

Brown has relied on The Wily Network, an organization that works to improve college graduation outcomes, for support. Brown said, "We're matched with a coach, and we meet with them weekly or biweekly. They make sure that we're taking care of ourselves, have a shoulder to cry on, and have the help we need."

Brown himself took something away from the panel. He said, "I felt a genuine connection for the few minutes when the audience nodded their heads and I saw their eyes glimmer. I thought I'd be helping them, but they really helped reassure me that I can keep going."

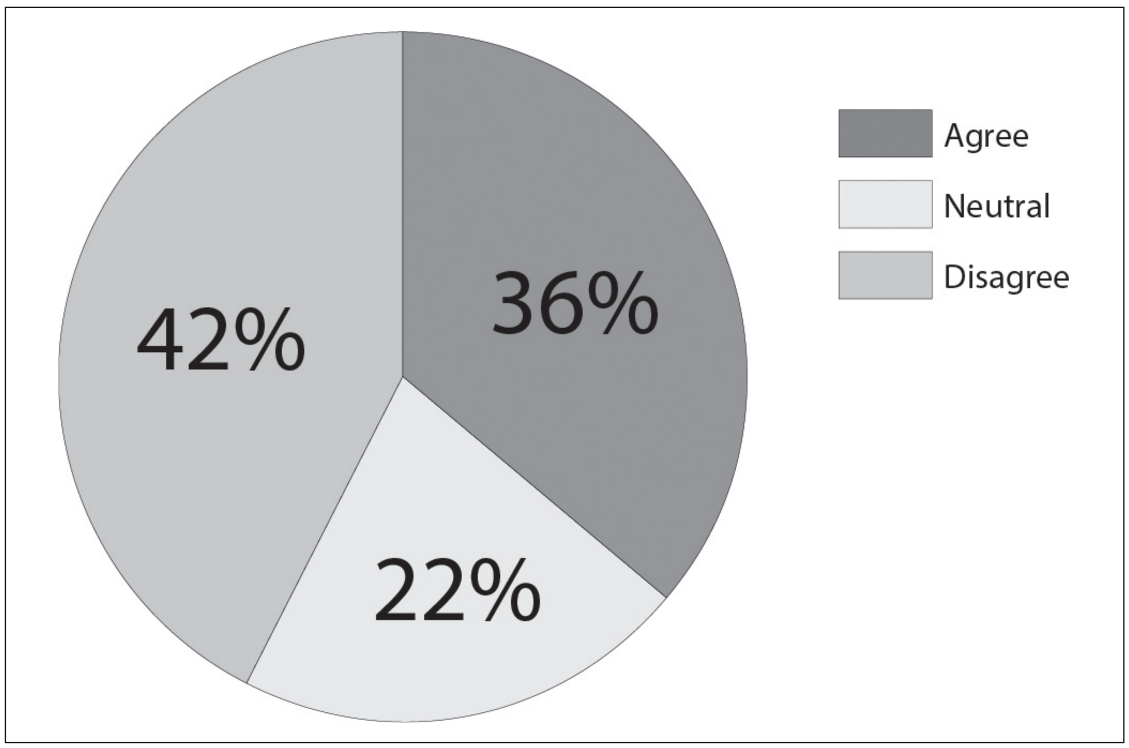
Besides communicating with the administration about the survey results, CASE plans to host joint events with organizations such as the Latino Cultural Center (LCC) and First Generation Program (FGP), according to García Franceschini.

CASE also hopes to continue a program it started last year, for matching families of graduating students with faculty willing to provide housing during commencement. "If we do the survey again after changes are made, we'd like to see some improvements," Truman said.



EBER NOLASCO-MARTINEZ—THE TECH

Number of undergraduate students who work for various motivations, shown as percentages of all respondents and percentages of respondents who felt there was a gap between their financial aid and their actual needs.



EBER NOLASCO-MARTINEZ—THE TECH

Students were asked if they felt their financial aid met their needs.

MIT team debates MCI Norfolk inmates on the opioid epidemic

'Norfolk has a history of excellence in debating'

By Anshula Gandhi

NEWS EDITOR

NATASHA HAVERTY

MIT's debate team faced off against the team of Massachusetts Correctional Institution — Norfolk, a medium-security prison, about the opioid crisis Sept 23.

MIT's debate team faced off against the team of Massachusetts Correctional Institution — Norfolk, a medium-security prison, about the opioid crisis Sept 23. MCI Norfolk extended the invitation to debate, and MIT accepted.

The debate centered around the resolution: "pharmaceutical companies should be held criminally responsible for their role as contributors to America's current opioid crisis."

The Norfolk team was assigned to support the stance, and the MIT team to oppose it.The MIT side brought up pros of opioid development, including fostering innovation and providing pain relief.

Daniel, a debater on the Norfolk team, started running a "calculation" on the crimes of pharmaceutical companies. "Please forgive me if i'm a little slow in my tabulation –– it's not like I went to MIT or anything," he said.

"I know we're from MIT, but I promise you, not everything we say is just numbers," Lily Jordan '19, a debater on the MIT team, said, and was met with laughs in the audience.

"No wonder we're losing the war on drugs –– we're aiming at the wrong targets," Daniel said, after stating that street level dealers can be prosecuted for homicide, while pharmaceutical companies can't. His statement was met with murmurs of approval from the audience.

MIT's team suggested that suing pharmaceutical companies for opioid abuse would be akin to suing alcohol companies for domestic violence under the influence.

Alex, on the Norfolk team, rebutted: when a gun kills someone, "the gun did exactly what you expected it to do," but when pain-relieving medicine hurts you, something is wrong.

The MCI Norfolk debaters shared personal stories regarding the opioid crisis.

David, the Norfolk inmate who moderated the debate, mentioned that his high school was "ravaged" by the opioid crisis, and that he could name at least 20 people he knows who were affected by the crisis.

Another Norfolk debater, James, held up a picture of his sister during his speech, explaining she injured her back years ago and is now consumed by opioid addiction.

Ronald, another Norfolk teammate, argued that pharmaceutical companies should be tried as criminals by jury "just as the majority of the people in this room had to do because we broke the law and harmed someone else." Ronald concluded: "What makes a pharmaceutical company any different?"

MIT's debate team won by a few points, due to disqualification of one Norfolk speaker who went overtime. However, the MIT team shared the sentiment that they would have rather won without the technicality. One Norfolk debater said the biggest thing he wanted to say to the MIT team was "thank you."

The Norfolk team appreciated the collaboration, "despite the social boundaries that seek to divide our humanity," David said at the closing remarks of the debate. No matter who wins, "you have already won the respect of this community," he said to the MIT visitors.

The captain of the Norfolk team said in an interview with The Tech that he was "excited to restore these relationships" and that "we don't get a lot of these opportunities." He mentioned he was glad to get a chance to show "that we are much more than our prison records."

"Norfolk has a history of excellence in debating and it is really an honor to participate with them," said Esparza.

"The debate topic was very personal to many of [the] people in Norfolk so getting to debate something that matters a lot in a personal level was also very ... memorable," Esparza said.

"My loyalties were divided!" said Lee Perlman, the director of the MIT Prison Initiative, professor who teaches classes at MCI Norfolk, and one of the debate organizers. "But it was very gratifying that the MIT debate team got to experience how intelligent and articulate my students in prison are."

History of MCI Norfolk debating team

On May 2, 1937, MIT was the first team to debate MCI Norfolk's debating society, according to an article in the Harvard Crimson, as well as Natasha Haverty, an NPR journalist writing a book about the prison's debate team.

The March 15, 1938 edition of The Tech features coverage of the second ever MIT-Norfolk debate.

After a period of dormancy, MCI Norfolk only recently revived its debate team, according to Haverty.

Background on MCI Norfolk

Many of the people in MCI Norfolk are lifers. "There are approximately 1,500 inmates housed at MCI Norfolk, approximately one-third of those inmates are serving life sentences for murder. Many of the inmates who are housed at MCI Norfolk are long-termers," said Christopher Fallon, director of communications at MCI Norfolk.

One inmate asked The Tech if it was "nerve-wracking" for students at MIT to come into a prison setting given "all the stereotypes."

"However, contrary to what is depicted in movies and with an inmate population that has committed a high percentage of very violent crimes, the prison is considered very safe," Fallon said. "The inmates walk around freely behind the wall and have jobs, attend classes, attend programs, play instruments and take part in representative government behind the wall."

"In addition, inmates at MCI Norfolk may attend college classes and earn degrees while incarcerated. We know that the more education that an inmate receives, the less likely they are to recidivate," Fallon said.

"Norfolk is the best medium security prison in the state, with the most humane living arrangements and the most educational and therapeutic programs," Perlman said. "I've been in other institutions where inmates talk about how they hope to eventually get to Norfolk."

"The housing units have rooms and were modeled like a college campus with separate buildings around a quad. There is no central dining hall, the inmates eat in their houses," Fallon said.

Inmates, however, do not have internet access. So, since the Norfolk Debate team didn't have access to internet, they had to find their sources by pouring through books and magazine archives looking for information and quotes relevant to their debate topic.

The debate was organized by by Lee Perlman, who directs the MIT Prison Initiative, which offers the opportunity for both incarcerated students and MIT students to take classes in prison.

"The men at Norfolk do the work very assiduously and are very interactive in class. I really love interacting with them. And many of them have really come to love 'the life of the mind.' It's very rewarding to participate in that with them. I think I've experienced the dignity and excitement of intellectual life there in a very different way than anywhere else," said Perlman.

Note: Only the first names of the prisoners are used in this article, due to communications policies at MCI Norfolk.

Mexican D.C. correspondent describes crisis in rural schools

Mexico, from Page 1

the American media about the 'bad hombres' [from Mexico]," Domínguez said. This narrative was "offensive" and "inaccurate," and it failed to address the "role that the U.S. has played in the persistence of the drug trafficking problem."

Secondly, Domínguez continued, the 11 million Mexican-born immigrants living in the U.S. (a statistic corroborated by a 2013 Pew Research Center study) could become a "rather potent political force" if they participated, but historically, they do not. Thus, another goal was to encourage political interest and participation among Mexican expatriates.

Most of the Q&A centered on Esquivel's work as a journalist and author, in particular his coverage on the role that U.S. agencies and citizens play in both fighting and sustaining the illegal drug trade. Esquivel's most recent book, Los Narcos Gringos ("The American Drug Lords"), explored the latter.

It is a "big lie that Mexican cartels are in the U.S. cities and streets selling drugs," Esquivel said. "The narco[tics] traffickers are business people, not stupid people," and they know that "if they are here, they will be destroyed immediately."

"Do you think El Chapo is in Los Angeles selling drugs?" Esquivel asked.

Instead, the distribution and sale of illegal drugs in the U.S. relies on a "very sophisticated infrastructure" of U.S. brokers and traffickers who coordinate each logistical step: storing the drugs in temporary "stash houses" near the border, transporting the drugs to locations inside the U.S., and then transporting the money earned back to Mexico.

Some of the agents in this process may come as a surprise, Esquivel said. Brokers sometimes approach blonde-haired, blue-eyed "soccer moms" to transport money.

Because they are unlikely to be stopped or questioned by the police, these moms are asked to take a "vacation" with their kids (from Boston to Atlanta, for example), in return for a large payout and a new car. During the trip, someone will put in a bag, and later, someone will remove the bag — Esquivel estimates that at least $1 million in cash is transported this way per trip.

Esquivel's previous books have detailed the function and impact of the U.S. Drug Enforcement Administration (DEA) and Central Intelligence Agency (CIA) in dealing with Mexican cartels.

In response to an audience question from Domínguez, Esquivel also explained the effects of the Mérida Initiative and former Mexican President Felipe Calderón's militant anti-drug campaign.

Once the Mexican military became involved, the cartels, who had previously worked with the government to avoid killing civilians, began murdering innocent people in large numbers, to the point where the public had grown accustomed to the violence and bloodshed, Esquivel said.

Esquivel could not sleep the night he first saw a body, but now, he can eat a hamburger right after. "We don't have the same feelings we used to have as human beings," he said.

"[The event] shed a lot of light on how the U.S. itself is involved in the drug war that it is trying so hard to combat," Kevin Leonardo '18, who attended the Q&A, said in an interview with The Tech Monday. "It was very interesting to hear how everyday people are helping move along everything."

The evening panel addressed the second purpose described by Domínguez. Titled El Voto Cívico Construye La Democracía ("The Civic Vote Builds Democracy"), it focused on the need for civic engagement and possible causes for the lack thereof, emphasizing the importance of voting and youth involvement.

DACA, for example, shows the power of political action: the passage of this policy was not the result of a sudden whim of Barack Obama — rather, it was brought to his attention thanks to the noise generated by the hard work of protestors.

The panelists also discussed a variety of issues affecting Mexicans and Mexican Americans.

One such issue was rural education. In 2014, 43 students from the Ayotzinapa Rural Teachers' College in Guerrero, Mexico were abducted by police while traveling to Iguala and subsequently disappeared; their exact fate remains unknown.

"Schools like Ayotzinapa date back to the Mexican Revolution (1910-1920) that gave the country's population education, land, and labor rights, reforms that have been continuously dismantled by the neoliberal policies that began in the 1980s and which the current administration continues to intensify," Padilla wrote in an email to The Tech.

In addition to the topics covered in the two events, Esquivel gave his thoughts on Donald Trump in an interview with The Tech Monday.

"As a Mexican journalist in Washington for almost 30 years — and this is not to offend anyone — the majority of the people who voted for President Trump in the November elections of last year are people who don't care or understand about the [U.S.'s] relation with Mexico," Esquivel said. "If Trump says Mexico is on the African continent, they will believe that."

Esquivel also commented on Trump's unpredictability: no one knows "what he's going to say two hours or two minutes after one of his tweets."

"When he is talking about serious issues, nobody, nobody in Mexico takes him as a serious president of the U.S.," Esquivel said. "We still don't get it. What went wrong with American democracy?"

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Confidence matters

Creating new startups with lessons from the past

By Laura Yvonne Facusse

I am an entrepreneur, and I’m looking to start another company. I had a cosmetics manufacturing enterprise, Vonne, and my two biggest clients were Walmart and TvShopping. I did it alone the first time, and I realized it makes sense to find a cofounder because starting a company is a hard and lonely road. I always strived to be the jack-of-all-trades founder and do everything alone so that I would not have to compromise on my vision.

Once I started having paying customers, I quickly realized I couldn’t do it all: managing production, product development and sales and marketing. I didn’t look for a partner because I was focused on meeting sales goals. I longed to have someone to share my struggles, passion, tasks, successes and brainstorming sessions with — especially the brainstorming sessions. After being here at MIT, my perspective changed even more. When I learned that investors do not like investing in solo founders, I quickly understood why.

In the past, what annoyed me most about having a cofounder was the thought of having to rely on someone else. I needed to learn that we all fill certain roles. I needed to accept that I can’t possibly learn every discipline I need to make all my startup ideas come true. While struggling with these feelings, I wondered if all business and technical folks go through this internal dilemma as well. What do my frustrations say about my identity and how I operate? Does everyone on the business side feel my annoyances? How do technical cofounders feel about business people? Do they also question their own worth and the value of what they bring to the table?

Listening to the “How I Built This” podcast, I realized many founders lacked technical expertise but had enough drive to execute their mission. It is also a matter of confidence. Entrepreneurship is about the road one has to travel to understand one’s own passions, perseverance, resilience and skills. It is also about getting to a level of confidence where you can execute the tasks that need to be done while battling fear and uncertainty. Entrepreneurship is about getting things done. For example, in the podcast, the Kickstarter founder, Perry Chen, and his cofounders didn’t have technical skills, and they were able to build a tech startup without a CS background. Even though they didn’t have a technical background, which is not recommended, they had each other.

After listening to the podcast, I made peace with myself and accepted that I will not be the technical person on the team. I will bring the hustler business expertise to the table, and that is equally valuable.

Something I learned while doing my undergraduate degree at the Parsons School of Design also helped me make peace. A professor brought an interesting speaker to class: a professional storyteller. Her message stayed with me: “Trust in your mission and remember that the message you want to deliver to the world is more important than your insecurities. Focus on delivering the message in the best way possible. Do not let your fears interfere, because the message is more important than the messenger.” Now, every time I pitch an idea, I focus on communicating the message effectively rather than worrying if I am a good public speaker.

My mission right now is to help connect entrepreneurs with early adopters and followers that could potentially become the first ten customers. Early adopters are people who are always searching on blogs and forums for the next new product, pledge to them on Kickstarter and like finding waitlists to get early access to product launches. I want to create an online meetup space, a marketplace of ideas, that engages these two groups. I want to find a technical cofounder who is as passionate about this problem as I am.

To see this mission through and resolve the “business versus technical” issue, I set up two chairs in a room. One chair is the technical hacker and the other chair is the business hustler. I switch from chair to chair and have the two sides negotiate with each other. They negotiate what classes I should take this semester and what skills and knowledge I need to succeed. They disagree on whether certain skillsets I have or want to build are strengths or weaknesses, and they disagree on how I should spend my time here at MIT in the most productive way. In the end, this exercise is a very egocentric process, but it all focuses on what my mission on earth will be instead of my insecurities. When I cannot come to an agreement with myself, the verdict is, “Do what you need to do to deliver your message.”

Laura Facussé is a second year student at MIT.

Do you have a question for President Reif?

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CORRECTIONS

An article about HASS petitions last week said that students may petition classes at Mass Art to count as HASS-A classes. This is not the case, as Mass Art uses a pass/fail grading system, and GIRs must be taken for a letter grade after freshman year. The same article referenced a source who is from the School of Arts, Humanities, and Social Sciences (SHASS) — not the Office of the HASS Requirement, as stated in the article. Students with questions about HASS petitions can email the Office at hassreq@mit.edu.

MOVIE REVIEW

On walls, society, and humanity: the story of a people of no women born

Blade Runner 2049 is an unoriginally original social commentary

By Torri Yearwood

You are an LA cop, the year is 2049, the world's ecosystems have collapsed, "Replicants" (genetically modified human clones with limited lifespans, with exception, and super strength) are a slave race to humanity, programmed to obey, but you've got to hunt down those that don't. Better yet, you're a Replicant too. Disposable, predictable, and beneath humanity, you do their bidding, but you can't complain. Not for the life of relative luxury that you live, but because you can't physically complain. You're not designed to. You hunt down your own kind, "retiring" (read: killing) the old models which have gone off the grid, or stopped doing their assigned jobs.

Bleak, isn't it? Yet, it could, with small modifications, very well be the pitch for any other cop action movie. So what's special about this one? As it turns out, a lot. While on the surface, it feels like any other action film, complete with explosions, love, fight scenes, and (rather unnecessary) nudity, the undertones and overtones of this film give it a unique, yet familiar, feel. On one hand, the film offers a nuanced commentary on modern politics, and on the other, a thoughtful analysis of the human experience. We see the writers consistently deliver an engaging, accessible, yet deep story.

Through the eyes of K (Ryan Gosling), a young replicant "blade runner" (replicant hunter), we see a world divided: humans, lording over nine planets, using replicants as slave labor and AI for technical computation. All three tiers are approximately equally intelligent, but only humans are allowed true free will; replicants, at least the newest models, are designed to be perfectly obedient to their human overlords, and AI programmed to act exactly as predicted. To be a replicant is to be less than human, to not have a soul, to not be, in a sense, real. This is a central question to the movie; what does it mean to be a 'real' human being? Is it to be of woman-born? Is it to be mortal? The film proposes interesting, if somewhat unsatisfying, resolutions to these, and a host of other problems.

One such pair of resolutions is those to curing a divided society. Because this is an action movie, of course one solution proposed is violence: to continue violent oppression of the underclasses, or, equivalently, for them to rise up from below. Whenever this happens in history, we see that the cycle continues, perhaps with different people on top, but still a cycle of violence. This is why I found the solution to be unsatisfactory. Alternatively, also in true action movie fashion, love is proposed as an intermediary for a divided society. While a shallow and cliché solution, it can be interpreted as destroying division by getting to know the other side and realizing how similar the two are (which is a recurring theme throughout the movie). This resolution, while more satisfying, it was not developed as a fully-fledged idea.

Interestingly, even though the film has just about every cliché it could, its internal explanations for them are intriguing. The senseless and unnecessary murder? Used to forward the undertone of the disposability of replicants and their corresponding lack of reverence to their less than benevolent masters. Fight scenes where the extras die after one shot, but important characters take several? Genetically modified humans aren't all created equal. The main character being the only one who can save the world? Well, explaining that would require spoilers.

Among the philosophical and thoughtful foreground (which I could go on for hours about), lies a bleak backdrop in the spirit of the original film's neo-noir visuals and soundtrack. While director Denis Villeneuve does an excellent job of presenting an aesthetic that feels similar to the original, he makes the world almost too monochromatic. Skillful use of color palettes to set the mood is one thing, but there are moments, clearly meant to be callbacks to the original, in which scenery felt too sparse to give the same amount of awe as the first film. In the story itself, this is explained by the total collapse of the Terran ecosystem in 2020, to which point it does aid the atmosphere. The music is definitely in the spirit of the original, albeit, like the rest of the film, made more action-movie-like and less of the adventurous Vangelis style. At points, the composers Hans Zimmer and Benjamin Wallfisch manage to capture this style, but it feels almost like they tried too hard, resulting in the right sound, but not quite the right emotion.

I thoroughly enjoyed this movie (with only minor caveats), and would recommend it to anyone who enjoyed the first one. That said, I would recommend seeing *Blade Runner: Blackout*, the 15-minute anime short before watching this movie, just for some context as to what has happened in the 30 years between the original and this sequel.

One last thing for fans: after the first movie, I was on one side of the "Deckard is a replicant," but I've flipped, with definitive textual evidence from this film.

★★★★☆

Blade Runner 2049

Directed by Denis Villeneuve

Screenplay by Hampton Fancher and Michael Green

Soundtrack by Hans Zimmer and Benjamin Wallfisch

Based on the characters from "Do Androids Dream of Electric Sheep?" by Philip K. Dick

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Nobel laureate donates award money to grad fellowship

MAHI SHAFIULLAH—THE TECH

Rainer Weiss, professor emeritus at MIT, was awarded the Nobel Prize in Physics "for decisive contributions to the LIGO detector and the observation of gravitational waves" Oct. 3.

Weiss, from Page 1

this — you didn't get a thing on your CV — you've wasted two years of your life not building up your credential?'" Weiss says of the experience. "That's crap."

All this was decades ago. Last Tuesday, Weiss shared the Nobel Prize in physics for his work on the Laser Interferometer Gravitational-Wave Observatory (LIGO), which has been responsible for detecting four gravitational waves, ripples in the fabric of spacetime emitted by colliding black holes, since 2016. Weiss had proposed a prototype for the detection instruments in 1967.

The project stalled for decades after its inception, undergoing repeated funding issues, technical concerns, and organizational overhauls. According to the National Science Foundation (NSF), the funding agency has invested $1.1 billion in LIGO over the years.

That's $1.1 billion of taxpayer money spent to confirm a phenomenon that Einstein predicted in 1916. How can researchers justify investment in basic science on this scale to laymen, when even fellow scientists question its utility?

"Pure curiosity-driven research is very often difficult to justify," Weiss acknowledges. But he thinks that society can get behind it, if only we — scientists and engineers, present and those still to come — could build a new paradigm of public interaction.

One problem? Alienation. "We start a language that is our own," Weiss says. "Sometimes when I listen to a biologist I don't know what the hell they're talking about." Not understanding is frustrating, but understanding is very satisfying, whether it's the physics of rainbows or the physics of gravitational waves; if a researcher could make the average person in society interested in their work, Weiss thinks that it would be a "tremendous step forward."

And while it's not the reason why basic research is carried out, a lot of practical applications can result from chasing curiosity. Weiss doesn't think we'll be using gravitational waves directly for communication, but through constructing LIGO, researchers have developed technology that consumers can reap the benefits of; examples Weiss gives include better lasers for fiber optics communication and vibration-isolation systems for semiconductor manufacturing.

Weiss has the public on his mind in other areas as well. As a result of the last election, Weiss donated to the ACLU and joined the Union of Concerned Scientists. Nobel laureates are not strangers to using their hard-earned podium to influence policy makers, and Weiss is ready to do the same — or at least to make the attempt. He has a list of senators, he says, who he knows are the ones to convince in order to "block craziness." A potential catastrophe of particular magnitude and urgency for Weiss: nuclear warfare.

Weiss has no personal use for his award money (except to set aside a small amount to send his grandson to college), he says, and has donated much of the approximately one and a half million dollars of award money he's accumulated in the recent years to the MIT physics department in the form of the Barish Weiss Fellowship. The fellowship, partially named after his co-laureate and LIGO collaborator, Caltech professor Barry Barish, will be granted to MIT graduate students intending to pursue experimental physics research.

Weiss spends more time talking about his research with high school students and women's clubs than with his colleagues, he says. Perhaps it's his inheritance from his mentor, Jerrold Zacharias, who chaired the 1956 Physical Science Study Committee that would overhaul physics education for American high schools during the height of the Cold War.

For a busy man who's likely to become much busier in the ensuing weeks, Weiss certainly sets aside a lot of time for students. At the lunch celebrating his win, he entertained numerous selfie requests, and stayed long after the food and crowds had disappeared to speak with the students who waited in line to speak with the laureate, giving all his undivided attention — including this star-struck Tech reporter who asked him whether he'd go to the White House if invited, and then proceeded to request an interview.

OBITUARY

Remembering Henoch Argaw (1998-2017)

Henoch Argaw '20 died on campus Sept. 29, President Reif wrote in an email to the MIT community two days later.

Argaw was a sophomore in Course 6-14 (Computer Science, Economics and Data Science) and a resident of East Campus. In an email to the undergraduate body, UA President Sarah Melvin '18 wrote that Argaw was a "friend to many" and an active member of the Ethiopian-Eritrean Students Association, the Bitcoin Club, and the Skydiving Club, among other groups.

Argaw hailed from Aurora, Colorado. His memorial service was held Saturday in Denver.

Members of the MIT community can access MIT student support resources and Mental Health Services at http://together.mit.edu, or via phone at 617-253-2916 during the day and at 617-253-4481 during nights and weekends.

Argaw participated in the MISTI Jordan program last summer. Friends who participated with him have contributed obituaries and pictures from their time together, below.

"I spent the summer with Henoch in Jordan, where we were both interning together. The one thing that always struck me about Henoch was his goofy smile; you could not go one conversation with him without breaking out into a grin. He was sweet, considerate, fun, and always willing to try something new, which made for a great adventure companion – one who I will terribly miss. Henoch is someone I will always admire and respect, and I will treasure the moments we had. I hope you're finally sitting on Mars, friend."—Mariam Dogar '20

"I got to know Henoch this past summer when we worked together. I remember thinking that we were lucky to have him - he was so friendly and upbeat in his understated way. He had an easy and generous way of grinning at you; it always brightened my day. I'm grateful for the short time I had with him. The pain of his loss goes deep, but the joy of having known him goes deeper."—Ahmed Moor, Co-founder and CEO, liwwa

"I had the pleasure of meeting Henoch in Jordan this summer. During the ten weeks that I spent with him, both at work and outside, we created many memories together. Henoch and I sat opposite each other and I will always remember the intellectual and humorous conversations that I had with him. He was always willing to help and offer his advice whenever I needed it and I was truly inspired by the breadth of his knowledge. Outside of work, I spent countless hours with Henoch at his apartment watching movies and having pizza. Perhaps my most prized memory of Henoch is our trip to the Dead Sea, where he managed to keep our group entertained throughout the trip. With his passing, I have not only lost a co-worker but a dear friend. I'm grateful for the time that I spent with Henoch and he will always be in my thoughts."—Mustafa Amjad, UPenn

"I made friends with Henoch this past summer where we both interned in Amman-Jordan. I shared many happy moments with Henoch. We traveled together in a group of five to Petra and Wadi Rum and spent the two most beautiful days in the desert. Since the first couple of days of my arrival to Amman and Henoch has been very kind to offer his help. He went above and beyond to connect me with several landlords to find me an apartment. He was just the type of guy who would give without expecting a return. From many conversations with Henoch, he seemed to love and enjoy what he was doing. He loved coding and was happy to practice this passion during the internship. He was a smart guy and had high ambitions to pursue his Masters degree."—Nabil Safyan G

— *Vivian Zhong*

Course 1-ENG now ABET-accredited

The Course 1-ENG undergraduate degree program recently received general engineering accreditation from the Accreditation Board for Engineering and Technology (ABET). The accreditation extends retroactively to the program's beginning in October 2014.

The 18-month accreditation process began as soon as the course became eligible, which was after its first graduating class.

"Engineering accreditation of our program is important to our students, particularly those who are considering careers in engineering practice," Colette Heald, Civil and Environmental Engineering (CEE) associate department head, was quoted as saying by Kiley Clapper, academic administrator of CEE.

Course 1-ENG has a flexible curriculum that allows students to combine Course 1 foundational courses with one of three core subject areas: mechanics and materials, environmental engineering science, and systems.

Students work closely with faculty to design their own track, which is a combination of their core, and unrestricted and restricted electives. Sample tracks include energy, bio-inspired mechanics, and sustainable buildings and cities.

"We completely revised and made significant improvements to the undergraduate program a few years ago, so for this program to be accredited by ABET is a tremendous opportunity for our students to develop their careers," Markus Buehler, CEE department head was quoted as saying by Clapper. "The accreditation is testament to the dedication of our faculty and staff to the success of our students."

— *Sharon Chao*

ADRIAN BUTTERWORTH

Members of the MIT community listening intently to Jocko Willink, retired US Navy Seal and author, in the Martin Trust Center.

OBITUARY

Remembering Michael Cohen (1992-2017)

Michael B. Cohen ’14, SM ’16, a doctoral student in the Department of Electrical Engineering and Computer Science (EECS), passed away due to natural causes, in late September. On Monday, Daniela Rus, Director of CSAIL, notified her community in an email that Cohen’s family informed her of his death.

Cohen was passionate about mathematics and the theoretical foundations of computing. He was visiting the University of California at Berkeley, where he had gone to meet with colleagues at the Simons Institute for the Theory of Computing when he passed away. The talented Cohen first came to MIT as an undergraduate student and earned a bachelor’s degree in mathematics in 2014 and later went on to pursue a graduate degree in computer science. He skipped his sophomore year at MIT to work at Facebook. He was also a member of CSAIL.

According to MIT News, Cameron Musco, a doctoral student who worked in the same lab as Cohen and co-authored many papers with him, wrote, “It was impossible to ignore his energy, wonder, and excitement for research, current events, and everything in between.” Musco also said that Cohen was “always … surrounded by a group of friends happy to banter or simply to listen. He was a natural teacher — truly kind, humble, welcoming, positive, and always willing to slow his thoughts for a moment to share his brilliance.”

Cohen also worked at Microsoft Research last summer. Sébastien Bubeck, a researcher in the Theory Group at Microsoft Research and Cohen’s colleague, included the MSR statement on Cohen’s death in one of his blogs. According to the statement, Cohen made “sweeping progress in online learning and online algorithms, two fields he had just recently become acquainted with.” His teammates at Microsoft mentioned that in addition to solving five open problems in online learning and online algorithms, he continued his substantial progress on the k-server problem, one of the most difficult challenges in the space of adaptive algorithms.

James R. Lee, a professor of computer science at University of Washington, said, “His mind was always going at 100 mph, so it was remarkable that he didn’t miss a beat in calibrating (i.e., slowing down) for an audience (or for those who did not know him).”

The MIT community offers its heartfelt condolences and loving support to Michael’s family and friends during this difficult time.

Anyone who wishes to make a contribution in Cohen’s name could donate to givedirectly.org, a charity he admired that provides money to individuals in extreme poverty in Kenya and Uganda.

Members of the MIT community can access MIT student support resources and Mental Health Services at *http://together.mit.edu*, or via phone at 617-253-2916 during the day and at 617-253-4481 during nights and weekends.

— Aishwarya Anantharaman

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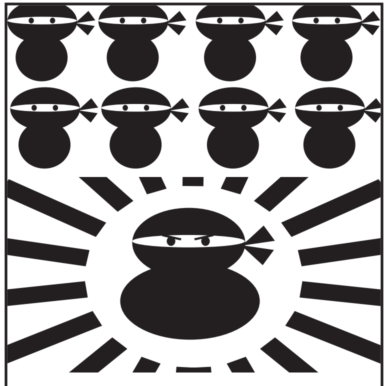
2.009 Build Challenge

Teams demonstrated their making skills at this year's 2.009 Build Challenge last Friday, Oct. 5. The subject, Product Engineering Processes is the capstone design subject for Mechanical Engineering majors. In 2.009 students form groups of 15-20, and take a project through its early phases, from idea generation to sketch modeling to prototype building. Past projects include a prosthetic leg, a high-tech coffee table, a mechanical ice scraper, and an egg washing and drying machine.



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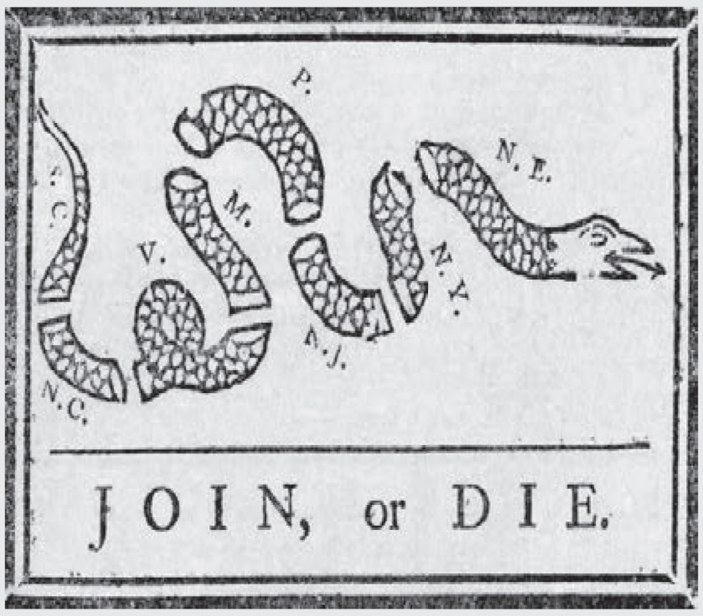
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ADRIAN BUTTERWORTH

Dexter Tenn of Springfield College attempts to dribble past MIT's Nate Johnson in a soccer match Saturday. He didn't succeed.

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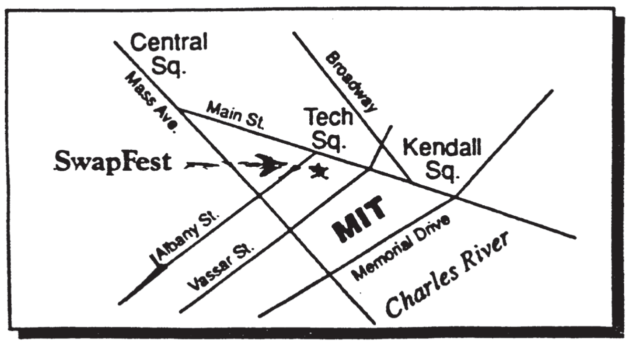
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Solution to Sudo

from page 14

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Solution to Bash

from page 14

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Solution to Grep

from page 15

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Solution to Down to Earth

from page 15

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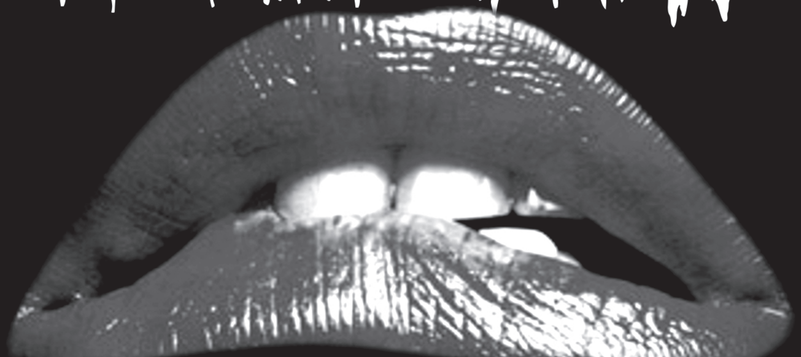

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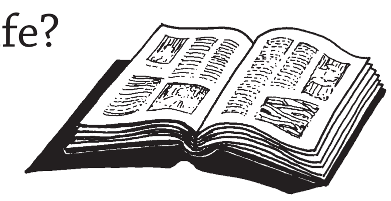

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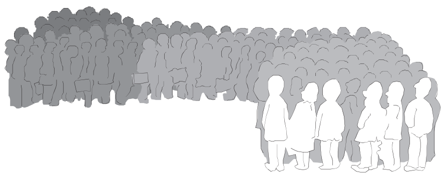

E-mail join@tech.mit.edu

MIT Federal Credit Union Seeks Candidates for 2018 Board of Directors Election

Our members own MIT Federal Credit Union. With that in mind, our member-elected, volunteer Board of Directors formulate and support decisions with our members' and the MIT Community's interest at heart.

MIT Federal Credit Union's nominating committee is currently seeking credit union members who are interested in serving on the Board of Directors. Three 3-year terms on the board will be open for the 2018 election in the Spring.

The application deadline is Friday, November 17, 2017.
If interested or for more info, visit **mitfcu.org/elections**

MIT FEDERAL CREDIT UNION

Call: 617-253-2845 | ***Click:*** mitfcu.org | ***Visit:*** **Cambridge:** 700 Tech. Sq. (NE48); 84 Mass. Ave. (W20-116)

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Israeli Dance Beginner's Classes

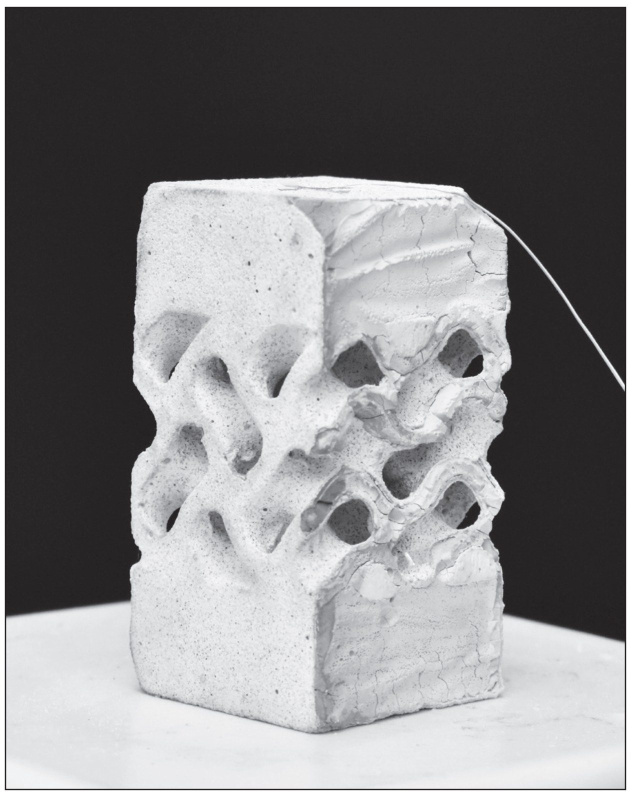
4 Wednesdays
Oct 18 – Nov 8
7:30 – 8:30 pm, Lobdell Dining Hall

Folk Dancing with Live Electric Balkan Music

Sunday October 15, Sala de Puerto Rico
Teaching at 8 pm, live music to 10:30

Free for MIT/Wellesley students.

MIT Folk Dance Club http://mit.edu/fdc



WILSON GOMARGA

The team behind "Geoworks" won a second place prize at MADMEC 2017, receiving $6000. This brick geopolymer prototype is intended to durable and energy-friendly, with the aim of allowing better room temperature regulation.

STARR FORUM

SYRIA
Which way forward?

THURSDAY, OCT 19
4:30 PM - 6:00 PM | MIT Bldg 3-270
33 Mass Ave (rear), Cambridge

FEATURING

ROBERT FORD
Retired American Diplomat
US Ambassador to Syria (2010-2014)
US Ambassador to Algeria (2006-2008)

STEVE VAN EVERA
MODERATOR
Ford International Professor
MIT Department of Political Science

STEVEN SIMON
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APPLICATION DEADLINE: OCT 20

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ASSOCIATE CONSULTANT INTERNSHIP RESUME SUBMISSION
- Deadline is 11:59pm on October 15th, 2017
- First round interviews will be held on Tuesday, October 24th, 2017

Applicants must graduate by June 2019 and all majors are welcome to apply.

Please apply via bain.com/careers AND Career Bridge. Please include a cover letter, resume and unofficial transcript.

BAIN & COMPANY

bain.com/careers

Sudo

Solution, page 11

	3				8			9
2		6	5			1		7
	7							
	9		8	5	7		1	
		7				5		
	2		9	4	1		7	
							2	
3		2			5	7		1
9			2				5	

Instructions: Fill in the grid so that each column, row, and 3 by 3 grid contains exactly one of each of the digits 1 through 9.

Bash

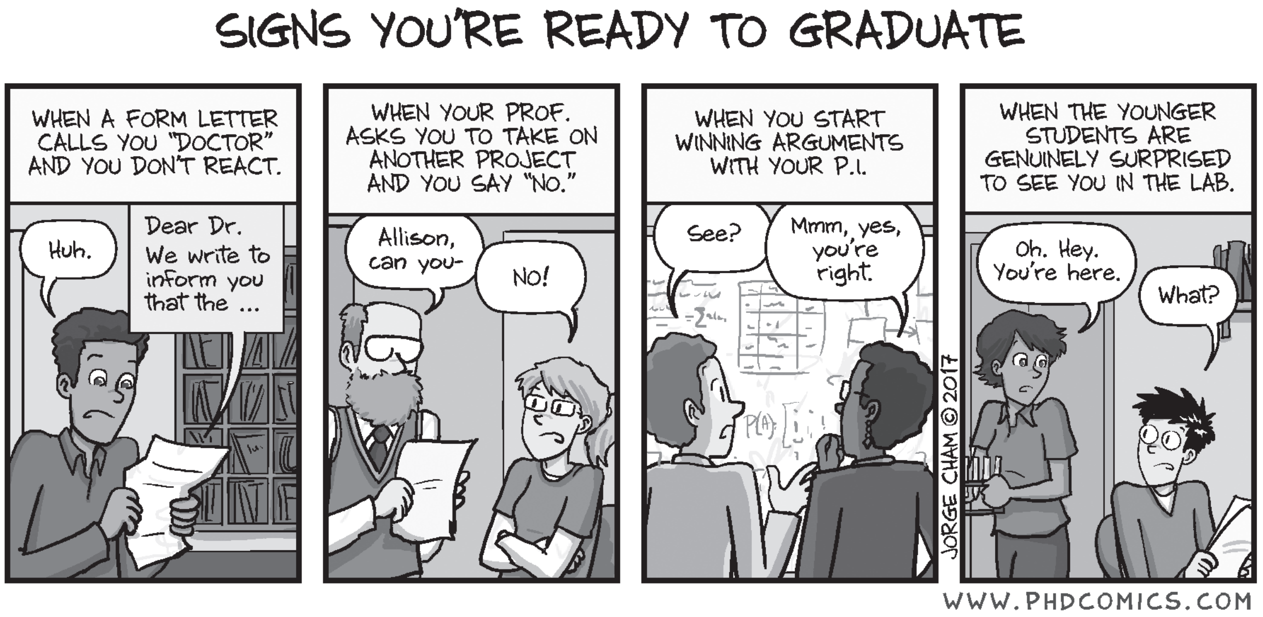
Solution, page 11

	1			6		2		3
			4		9		5	
		8	7		3			
1					6	4		
	8	7				3	6	
		6	8					2
			6		4	7		
	4		9		1			
6		5		8			4	

Instructions: Fill in the grid so that each column, row, and 3 by 3 grid contains exactly one of each of the digits 1 through 9.

PhD
PILED HIGHER AND DEEPER

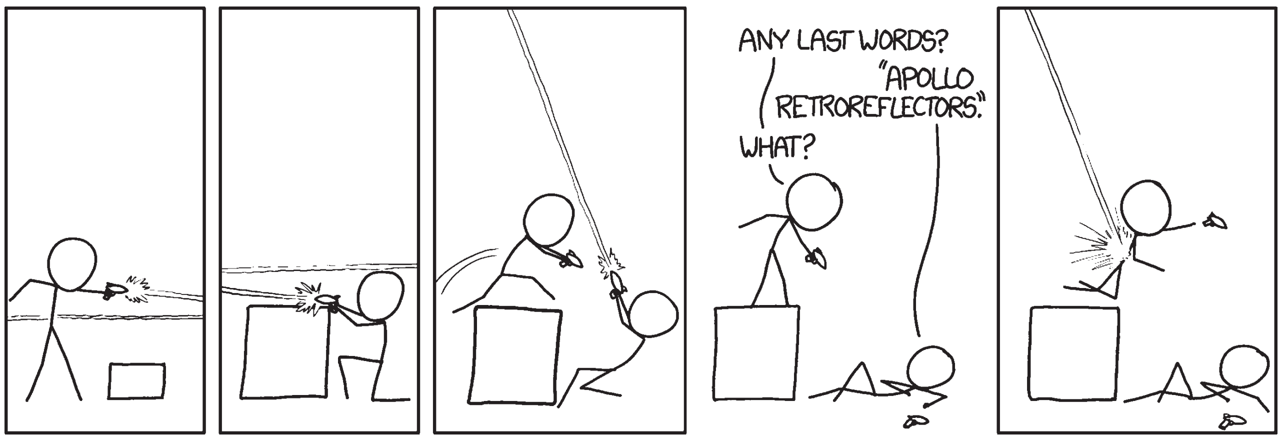
by Jorge Cham


SIGNS YOU'RE READY TO GRADUATE
WHEN A FORM LETTER CALLS YOU "DOCTOR" AND YOU DON'T REACT.
Huh.
Dear Dr. We write to inform you that the ...
WHEN YOUR PROF. ASKS YOU TO TAKE ON ANOTHER PROJECT AND YOU SAY "NO."
Allison, can you-
No!
WHEN YOU START WINNING ARGUMENTS WITH YOUR P.I.
See?
Mmm, yes, you're right.
JORGE CHAM © 2017
WHEN THE YOUNGER STUDENTS ARE GENUINELY SURPRISED TO SEE YOU IN THE LAB.
Oh. Hey. You're here.
What?
WWW.PHDCOMICS.COM

A WEBCOMIC OF ROMANCE, SARCASM, MATH, AND LANGUAGE

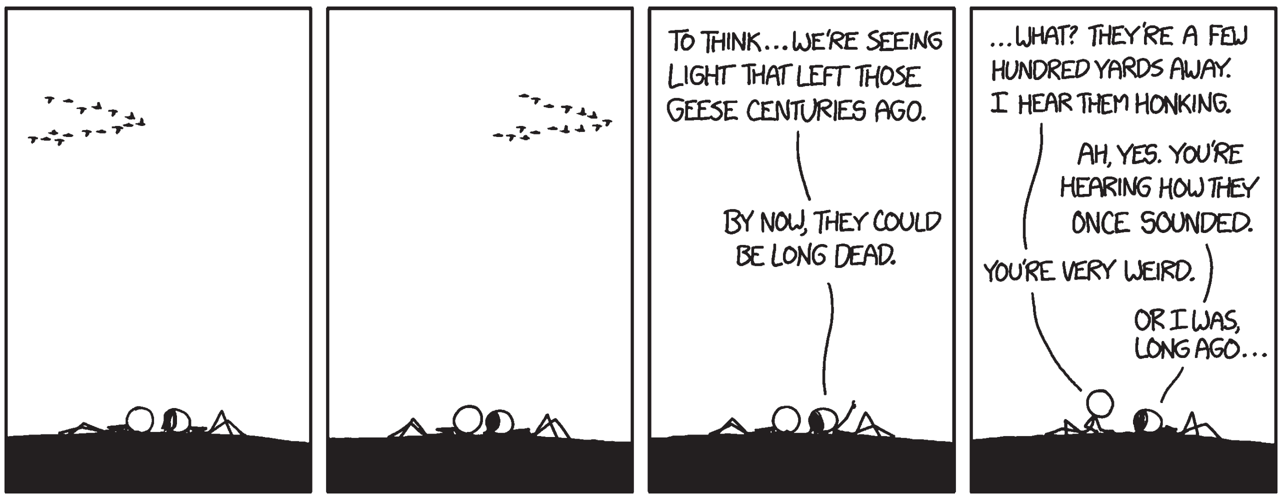
by Randall Munroe

[1441] Turnabout


ANY LAST WORDS?
WHAT?
"APOLLO RETROREFLECTORS."

Whenever I miss a shot with a sci-fi weapon, I say 'Apollo retroreflector,' really fast, just in case.

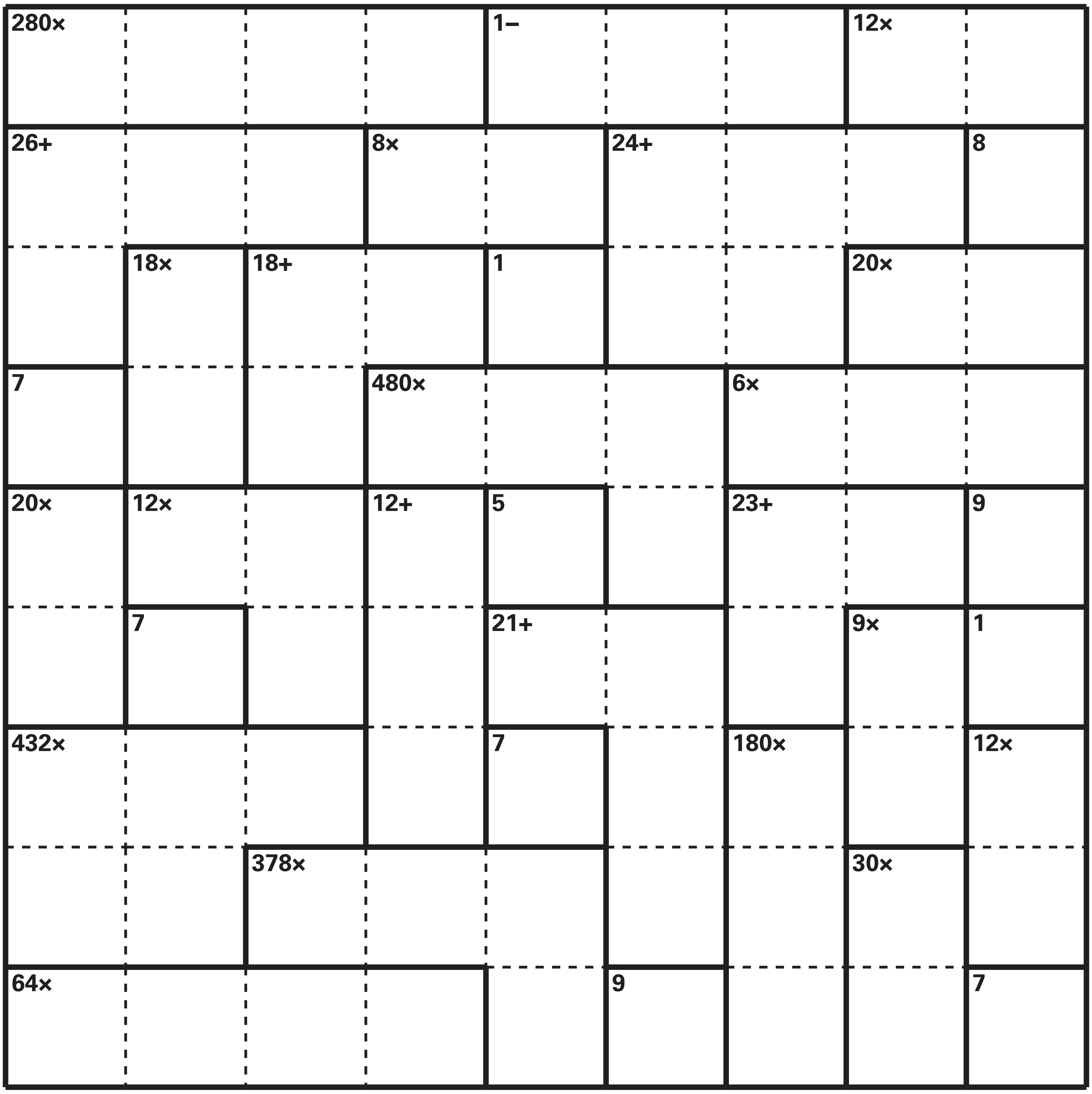
[1440] Geese


TO THINK...WE'RE SEEING LIGHT THAT LEFT THOSE GEESE CENTURIES AGO.
BY NOW, THEY COULD BE LONG DEAD.
...WHAT? THEY'RE A FEW HUNDRED YARDS AWAY. I HEAR THEM HONKING.
AH, YES. YOU'RE HEARING HOW THEY ONCE SOUNDED.
YOU'RE VERY WEIRD.
OR I WAS, LONG AGO...

Anyway, that's a common misconception. Geese live for a long time; all the ones we can see will probably keep flying around for billions of years before they explode.

Grep

Solution, page 11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7

Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–9. Follow the mathematical operations for each box.

Down To Earth by Greg Johnson

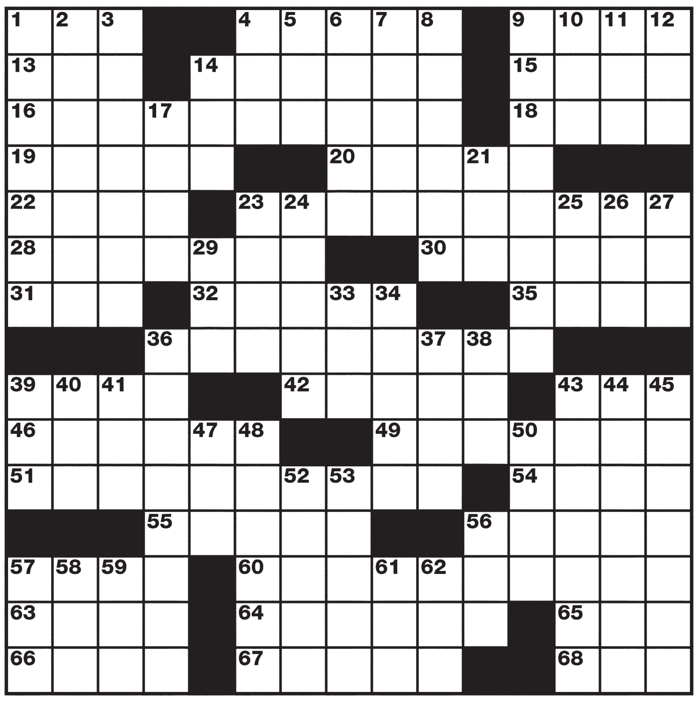
Solution, page 11

ACROSS

1 Bit of barking
4 Makes better
9 Cuisine with fried rice
13 Top of an org chart
14 Filled and folded fare
15 Throws on the floor
16 About 1.25″ in diameter
18 Ominous comment
19 Epic with Achilles
20 More than miffed
22 Resource for many a collector
23 About 2.5″ in diameter
28 Decides as a body
30 "Just as I predicted"
31 Artistic knack
32 Pokes at
35 Adapted (to)
36 What each of the four longest answers is a term for
39 Ole Miss rival
42 Proof of innocence
43 PD rank
46 Crepe cousin
49 Maine thing
51 About 3″ in diameter
54 Wall installation
55 Doughy ring
56 Motor Trend specialty
57 Hemingway nickname
60 About 4.5″ in diameter
63 13 Across, e.g.
64 Purpose of a convoy
65 YMCA class
66 Optimal
67 Specifics, informally
68 Grasp mentally

DOWN

1 Make good on
2 Pinocchio, at story's end
3 Covered with leaves
4 Benefits option
5 Japanese pizza topping
6 Full-stake bet
7 Absorb information
8 Water beside Gibraltar
9 Staunch
10 Clueless query
11 Before today
12 It means "in a way"
14 Leftover
17 Novelist Kellerman
21 General associated with chicken
23 Ring shapes
24 Woman's name on an historic B-29
25 They may push you to buy
26 High-pH chemical
27 It's a boy
29 Luxury hotel amenity
33 Broadband offering
34 Even now
36 Stay behind the leaders
37 Slender wind
38 Tip for a calligrapher
39 42 gal. of oil
40 Rather like
41 Erstwhile orbiter
43 Easter Island's claim to fame
44 French sponge cake
45 Bridge support of a sort
47 Chinese green, e.g.
48 Took evasive action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50 Side track
52 Intrinsically
53 Word associated with nouns
56 Towards the tail
57 Physical sparkle
58 Any jazz instrument
59 Spherical seed
61 Accumulated stake
62 76 suffix, in sports

Hesslink ’17 turns dreams into reality at the MLB draft

Winningest pitcher in Engineers history grew up a Mariners fan and will now pitch in the organization

By Ahaan Rungta
SPORTS EDITOR

The 2017 Major League Baseball draft, held on Jun. 12, was historic for MIT, as for the first time in school history, two Engineers were selected. Infielder Austin Filiere ’18 and right-handed pitcher David Hesslink ’17 became the third and fourth Engineers ever to be selected in the MLB draft. Earlier in the year, *The Tech* caught up with early-round pick Fliere and, later, with late-round pick by the Seattle Mariners, David Hesslink.

The Tech: When did you first realize that baseball was your sport and that’s what your passion was?

Hesslink: Baseball has been a part of my life as long as I can remember. I started playing at the age of four and haven’t stopped yet. I grew up a Navy kid, moving to a different state about every 18 months as my dad was re-stationed. For me, baseball was the glue that held me together through those times growing up. Corny as it may sound, when people ask me where I grew up, I often say on the baseball diamond. I played four years of varsity baseball across three different high schools, and the chance to play NCAA baseball was a big factor in bringing me to MIT. I declared course 2 as a freshman because it wasn’t until about the end of my sophomore year that I realized a career in baseball (working on analytics, etc.) was a legitimate possibility.

The Tech: When was the first time you realized that you were probably going to be drafted by an MLB team?

Hesslink: When I came to MIT, I was still entertaining the pipe dream of becoming a professional baseball player. However, I knew I needed to improve to have a legitimate chance at a professional playing career; my fastball tops out around 82 MPH. While I had success as a pitcher at MIT, my fastball velocity never grew, so I came to give up on my dream of being a professional pitcher. I was completely prepared for my playing career to end at the end of MIT’s season this year when I got a call from the Seattle Mariners in the fall saying they wanted to draft me and see how far I could go as a professional player.

The Tech: Do you have any specific players, former or current, in the Major Leagues that you look up to or want to model yourself around? And what kind of lessons do you take from them?

Hesslink: As a kid, it was Randy Johnson. He’s one of the few professional players to throw left handed and hit right handed, just like me. He was also known for his height, speed, and intimidation factor when he faced opposing hitters. That was something I always aspired to. As I grew older and realized I don’t have the physical gifts of Randy Johnson, I began to aspire to pitchers like Tom Glavine, who made a career of throwing very accurately and outwitting opposing hitters.

The Tech: You worked with postdoc Will Cousins on a baseball simulator. How did your experience at MIT with that project prepare you for your prospective future in a front office?

Hesslink: The baseball simulator project was my final project in 2.086, which I took my sophomore fall. The project stemmed from one baseball related question on one problem set, which is ironic when I consider how far that’s taken me since. That project led to a baseball UROP with Will the next semester, led eventually to an internship with the Rays, and eventually led to my position with the Mariners. I’m excited to see where I’ll go from here. On a personal level, the simulator project was the first time I thought a career in baseball analytics was a feasible option post-MIT. Prior to that, I’d always assumed that world was a holy grail that was well beyond my reach. On a technical level, that project taught me MATLAB and was my first exposure to the power of coding and how it can be applied to baseball.

I think one of the most valuable skill sets coming from MIT is the work ethic everyone has to have to get through the Institute. That “forged by fire” mentality really puts not just me, but all my fellow graduates in a good position to leave MIT and go shape the world as we see fit. I think another element of MIT that helped shaped me was the stability it brought to my life. Living in 10 different zip codes growing up, I never had roots in any one place before I came to MIT. The stability of the places, the community, and the friends I made there, through the baseball team, Simmons Hall, and other venues, helped change my life.

I’ll give a shout-out here as well to the GEL program on campus, which helped me learn that everything in life always boils down to a people problem, and life changing, ground breaking work doesn’t make any impact unless it can be effectively communicated. The lessons from the program are particularly poignant in baseball; no matter how advanced the analytics get, the game will always be played by people, and the most improvement will come from helping those people to perform; the analytics is just one piece of that puzzle.

The Tech: Given on your experiences in course 2 studies and your work on scientific baseball research, does that affect your pitching in real games in a way that may give you an edge over others? Do you self-scout opponents and use your ability to simulate to your advantage to boost your performance on the field?

Hesslink: I think the edge I gain when pitching is trying to understand my opponent. If I can understand the batter’s thought process, I can intentionally pitch differently (i.e., throw a fastball instead of a curve). That reverse-psychology mind game is one of my favorite parts of pitching. I pride myself on being a smart and observant pitcher, looking for minute flaws and tendencies in hitter’s swings.

This may sound strange, but I don’t think the academic side of the game adds much value to my playing skill. There’s an analogy I like to use; the best NASCAR drivers don’t know how to engineer a racecar. Similarly, the best NASCAR engineers wouldn’t make good drivers. In a similar vein, knowing how to create sophisticated analytics tools isn’t as important to being a good player as knowing how to use them. In that sense, I view them as separate skills.

The Tech: We know that balancing your life between varsity sports and an MIT academic life can be tough, and it’s a feeling that might not be relatable to a lot of people in the profession you are now in. What is something you have learned through the process that you plan to take out of your time at MIT and the experience of being on the MIT baseball team?

Hesslink: The student-athlete work-life balance at MIT really helped me to develop as a person. When faced with so many things to do and a finite number of hours in the day, I had to learn to prioritize what matters to me in life, what leads me to my own happiness. There’s another analogy here that I find useful. Before every start I made on the mound at MIT, I threw the ball as far as I could in warm-ups; that way, for the rest of the day, all the other throws I made during the game felt like they were well within my capabilities. The MIT student-athlete experience is similar; now that I’ve gone through that juggling act, I feel like anything else I’ll come across moving forward will be well within my capabilities.

Also, the MIT baseball coaching staff was a great help in finding that balance. They know how much we all care about the team, and they’re astoundingly dedicated, committed, and loyal in helping us be the best possible MIT baseball team we can be. They work incredibly long hours and sacrifice quite a lot in terms of their time, convenience, and personal life to be there for us, and it’s pretty safe to say that I wouldn’t have made it here without them. Unlike most college coaches, they also understand the rigor of being an MIT student-athlete and truly care about each player as an individual, both on and off the field.

The Tech: If you could, please share with us what’s going to transpire in the near future, including what you will be working on this summer. What are your plans for the future as of now and what are some of your ultimate goals as an aspiring executive and ballplayer?

Hesslink: This summer is all about playing ball. I’m living my dream as a minor league baseball player with the AquaSox, and I’m going through everything that entails. We play about 29 games a month, travelling all over the Northwest League competing against other organizations’ short season A level affiliates. I’ve made some great friends out here playing, and playing out here in front of the hometown fans in Everett has been an awesome experience. Being a low-level minor league player isn’t all glamour; we work long hours for very little pay and have lots of travel. I’ll never forget my first week with the team, whenwe checked out of our hotel before our road game, got to the stadium around 12:00, played a game at 7:00, which went to extra innings, left around 1:00 AM on a bus, and got home around 5:00 AM the next morning, just to be back on the field a few hours later for another game.

The Tech: Is there anything else you would like to tell us or give any shoutouts to people in the MIT community that have meant a little extra to you in your time here?

Hesslink: I just want to say thanks for everyone I met at MIT for making it one heck of a ride. Life has a way of directing us down one very specific path, and the strong support I received from my MIT community (the baseball team & coaches, Simmons Hall, the GEL Program, various professors, etc.) was critical to helping me get to where I am, and I couldn’t love it more. I’ll always be grateful to the MIT community and look back on my time there with nothing but the fondest of memories.

Hesslink, the winningest pitcher in MIT baseball history, recalled the experience of the draft as “surreal” and emphasized his gratefulness to the MIT community and his family, as he begins his journey in baseball. He states that hey doesn’t know exactly where his career will go, but he thinks he’ll stay in professional baseball one way or another - whether that’s as a pitcher or transitioning into the front office after his playing days expire. This summer, Hesslink played for the Everett AquaSox, the short-season A level affiliate of the Seattle Mariners. He has already matched up against his former MIT teammate, Austin Filiere, in professional baseball. As both of them transition into their paths to the the major leagues, The Tech and the MIT Engineers wish them the best in their future endeavors.

Want to see these teams battle it out in person?
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